



SHENZHEN ZHONGKE WIRELESS TECHNOLOGY CO. LTD
TELEPHONE: 0755-33118958 www.zkant.com

Product Specification

Customer Name: Lingbei robot

Project Name: 2.4-5.8GBuilt-in antenna

Product Spec: ZK-2.4G-1.13IPEX-L200-J34

REV: V1.0

Date: 2023.03.03

drawing	check	approved
Huang Yongjun	Wang Yumei	Jiang Zhenhua



Customer Approve

check	approved	approval



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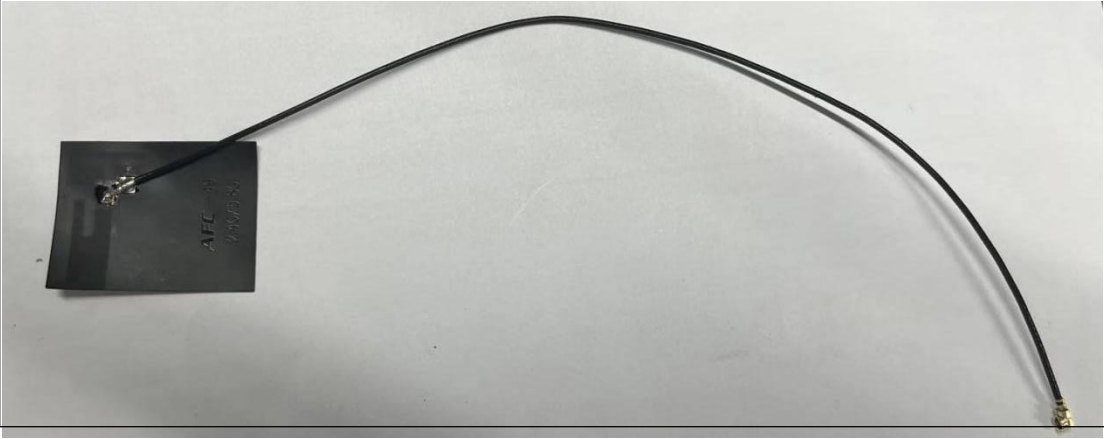
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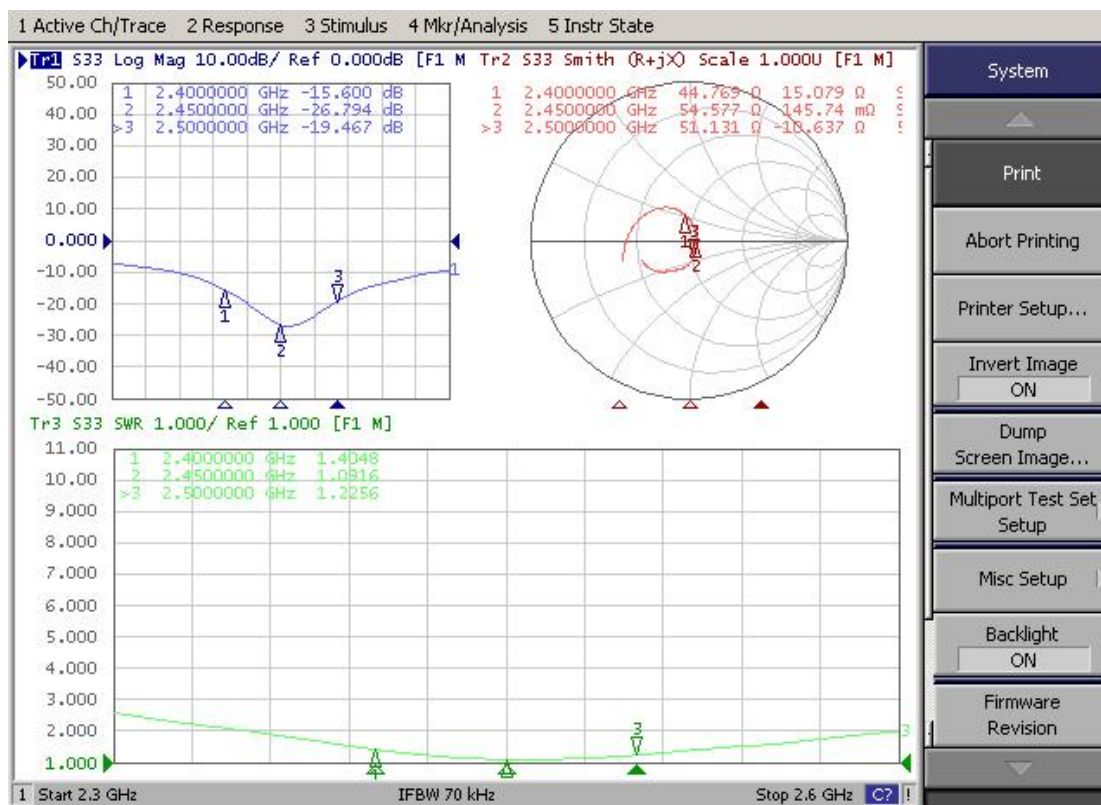
Electrical Performance Index

Electrical Specifications	
Frequency Range	2400-2500MHZ
VSWR	≤ 2.0
GAIN	$\leq 2.4\text{DBI}$
Radiation	OMNI
Polarization	LINEAR
Input Impedance	50 Ω
Mechanical Specifications	
Input connector	IPEX-1
Working Temperature	-30°C~+80°C
Working Humidity	40~85%
Physical drawing	
	

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Test report

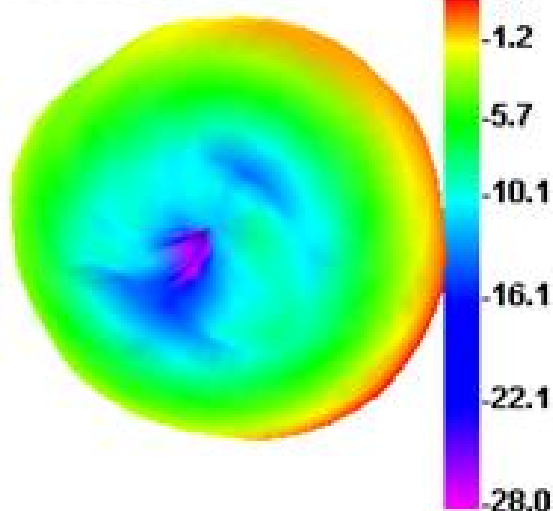
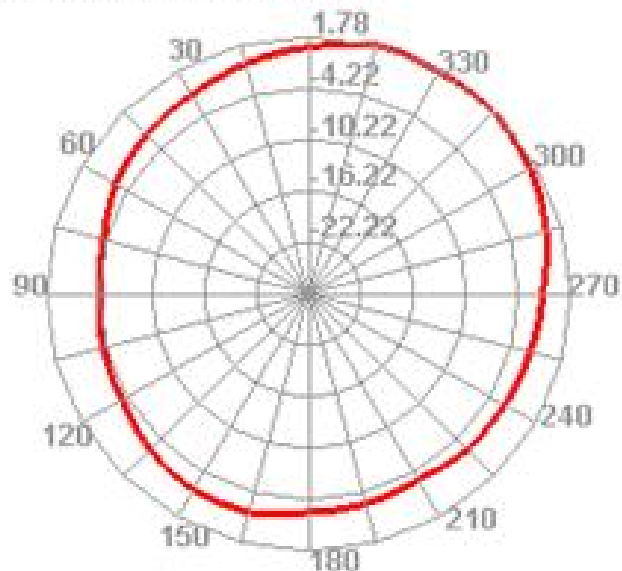
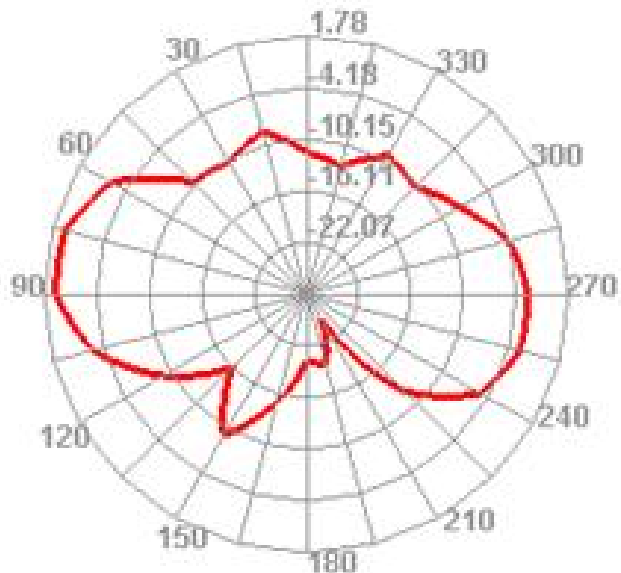
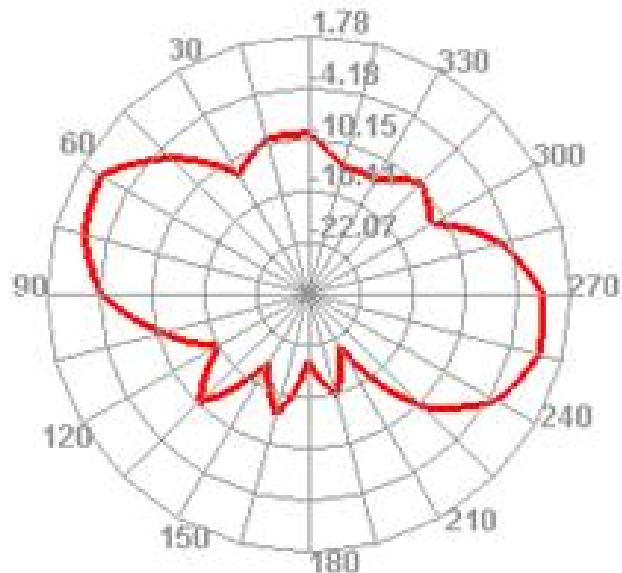
1. Antenna standing wave pattern antenna efficiency

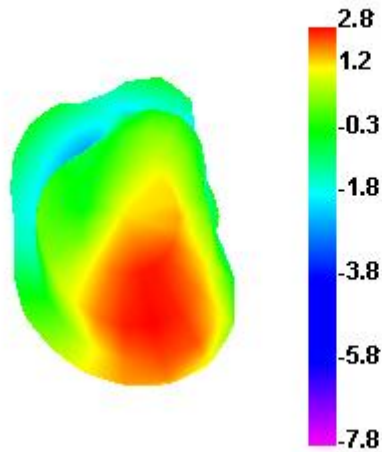
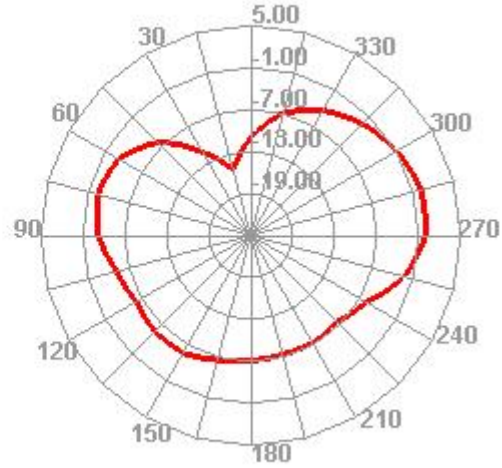
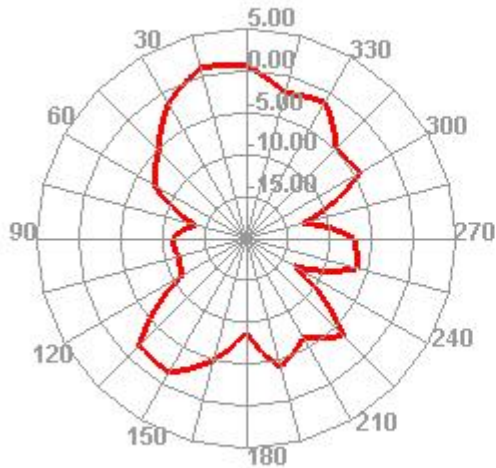
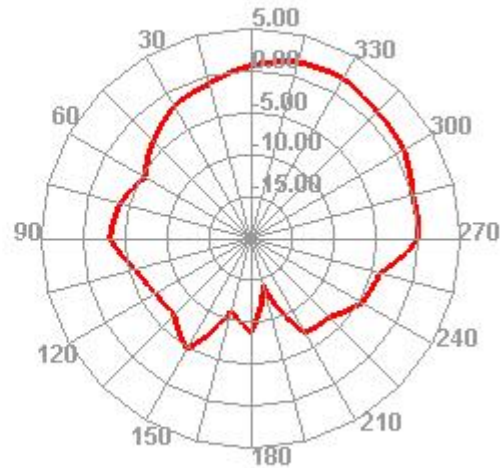


2. Antenna efficiency

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)
2400	60.88	-2.16	1.85	-0.3
2405	59.55	-2.25	1.72	-0.43
2410	60.01	-2.22	1.86	-0.29
2415	60.79	-2.16	1.78	-0.37
2420	57.91	-2.37	1.49	-0.66
2425	64.98	-1.87	2.03	-0.12
2430	66.81	-1.75	2.15	0
2435	68.88	-1.62	2.39	0.24
2440	71.94	-1.43	2.39	0.24
2445	72.87	-1.37	2.44	0.29
2450	71.62	-1.45	2.27	0.12
2455	69.45	-1.58	1.93	-0.22
2460	69.9	-1.56	1.95	-0.2
2465	68.4	-1.65	1.59	-0.56
2470	68.43	-1.65	1.59	-0.56
2475	68.72	-1.63	1.82	-0.33
2480	73.01	-1.37	2.01	-0.14

3. Antenna pattern

2450.000MHz**2450.000MHz H****2450.000MHz E1****2450.000MHz E2**

2445.000MHz**2445.000MHz H****2445.000MHz E1****2445.000MHz E2**

Testing Equipment and Principle

1. Test the equipment:

Network Analyzers :

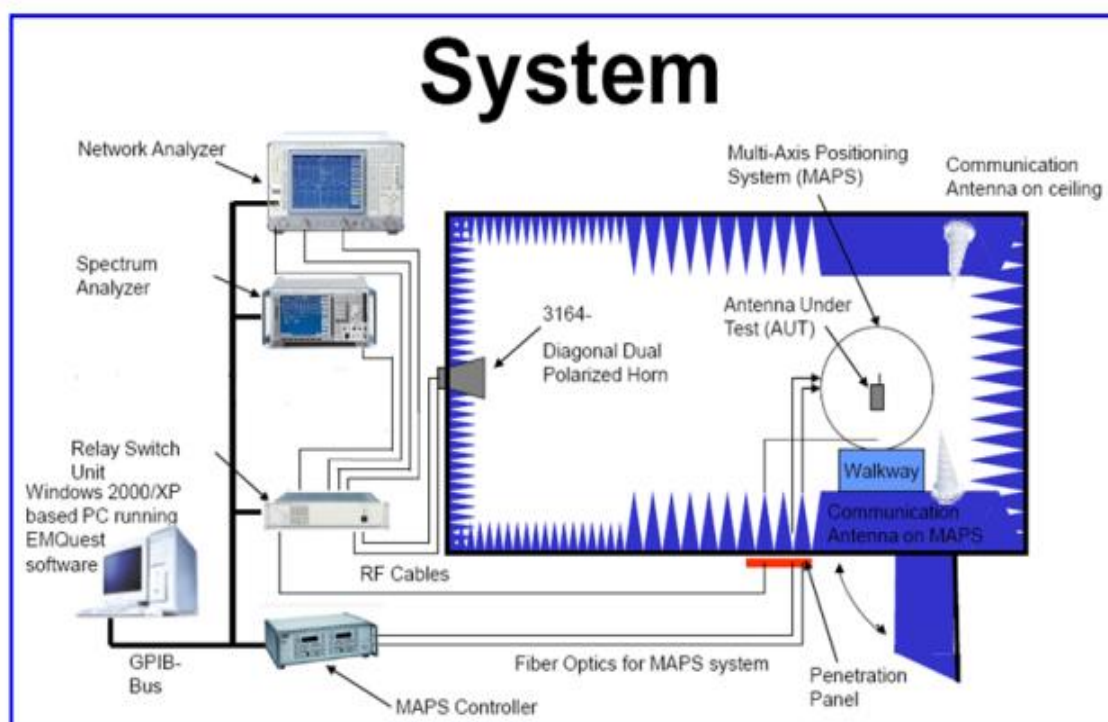
Agilent 8753D 5071B

Communications Test Set:

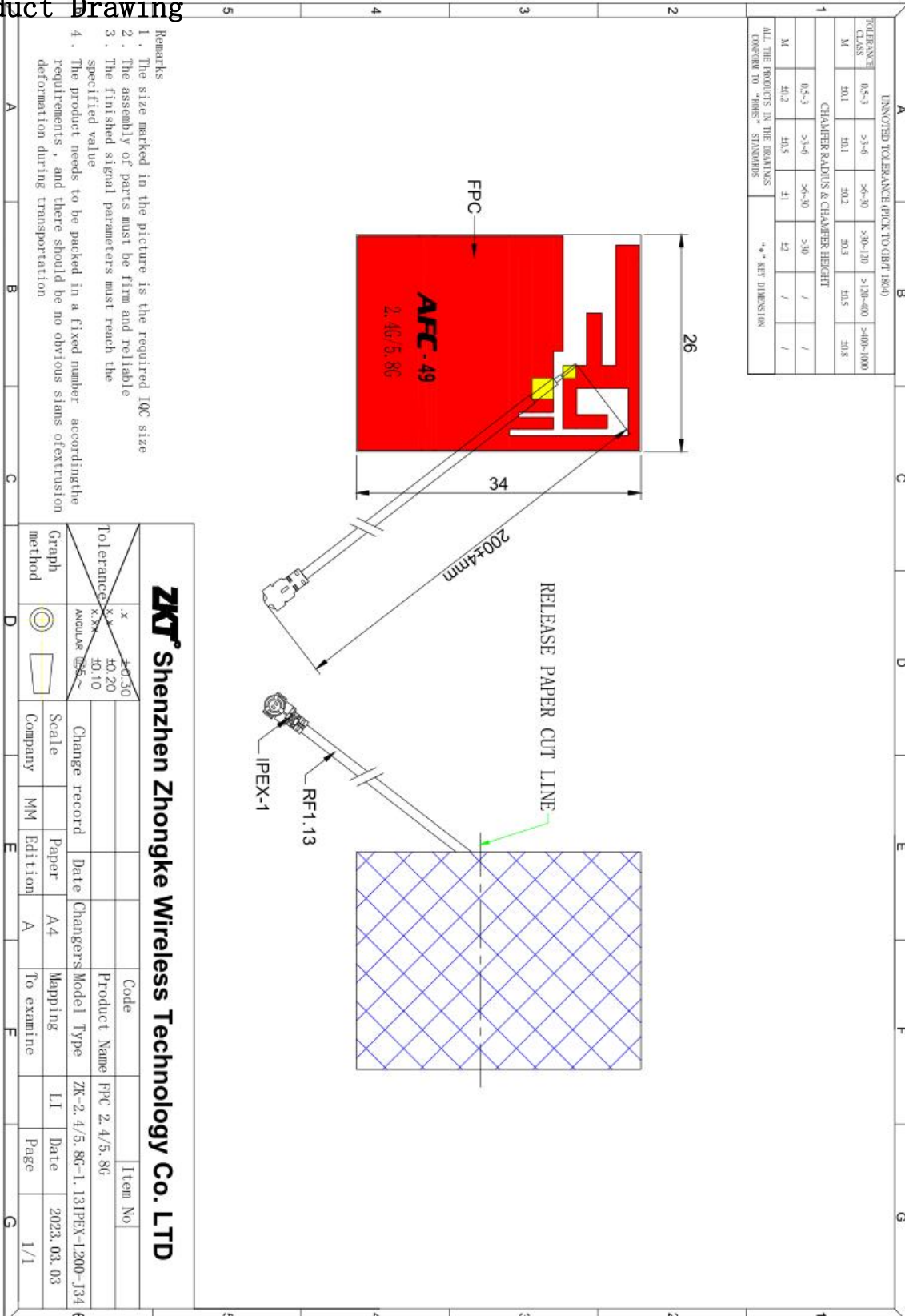
Agilent E5515C

3D Chamber Test System:

2. Test the principle:



Product Drawing





Reliability test report

Test item		Test method	Ask for	result
C1	V. S. W. R.	Design network analyzer parameters for testing	norm	pass
M1	Antenna gain	The antenna darkroom parameters were designed and tested	norm	pass
M2	Vibration	GB / T2423.48-2008 Amplitude: 0.03 inch (1.5mm); Freq: 20 to 80to 20 Hz3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
M6	Random Drop	GB / T2423.8-1995Single: Height: 1.0 Meter; 3 directions; 1 time for each direction	1. No parts separated、fracture 2. Frequency Tol. $\leq 5\%$	pass
E3	Dimension	Inspection of dimension, color, material, package, surface process.	Directive DUT specification	pass
E4	Temperature and Humidity Chamber	GB / T 2423.3-2006Temp: 80° C / 12 H; -40° C / 12H RH: $\geq 90\%$; Time: 24H	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
E5	Thermal Shock	GB / T 2423.22 - 2008- 40° C (30 minutes) to + 80° C (30 minutes); Cycles: 24 - 40° C	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
R1	Aging test	GB /T 2423.2 - 2008Temp: 80° C; Time: 24 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. $\leq 5\%$	pass
M1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2015/863/EU	pass

Product name/specification

一、Label requirement

Order number	*****
Material code	*****
Name specification	*****
Quantity/unit	*****
remarks	*****

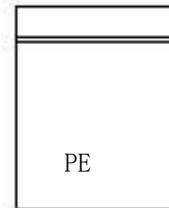
Order number	*****
Material code	*****
Name specification	*****
Quantity/unit	*****
remarks	*****

二、Packing requirement

Job description:

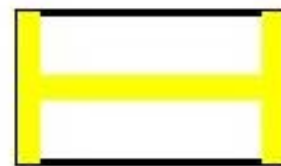
1. Inner packing:

Product 50PCS a small bag

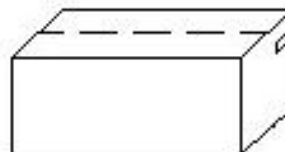


2. Outer packing:

Quantity/box according to actual quantity



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Note:

1. Whether to add partition board, pearl cotton;
2. Label attachment, such as ROHS, etc.